

ABSTRACT

Data is detected on a plurality of received communications channels in a CDMA wireless communication system. A solution for estimating data of the received communication signals is modeled using a linear system requiring a matrix inversion. Columns or rows of an approximate Cholesky factor are determined. A difference between the determined columns or rows is determined. If the determined difference is less than a threshold, subsequent columns or rows are determined by previously determined columns or rows. The data of the received communication signals is estimated using the approximate Cholesky factor, and the estimate is used to detect data received on the plurality of channels.